

# Mercury Wet Deposition Monitoring at DAQ



2861 West Parkway Blvd (~2400 South)  
West Valley City



**N-CON Systems Mercury Deposition Network Sampler (MDN)**

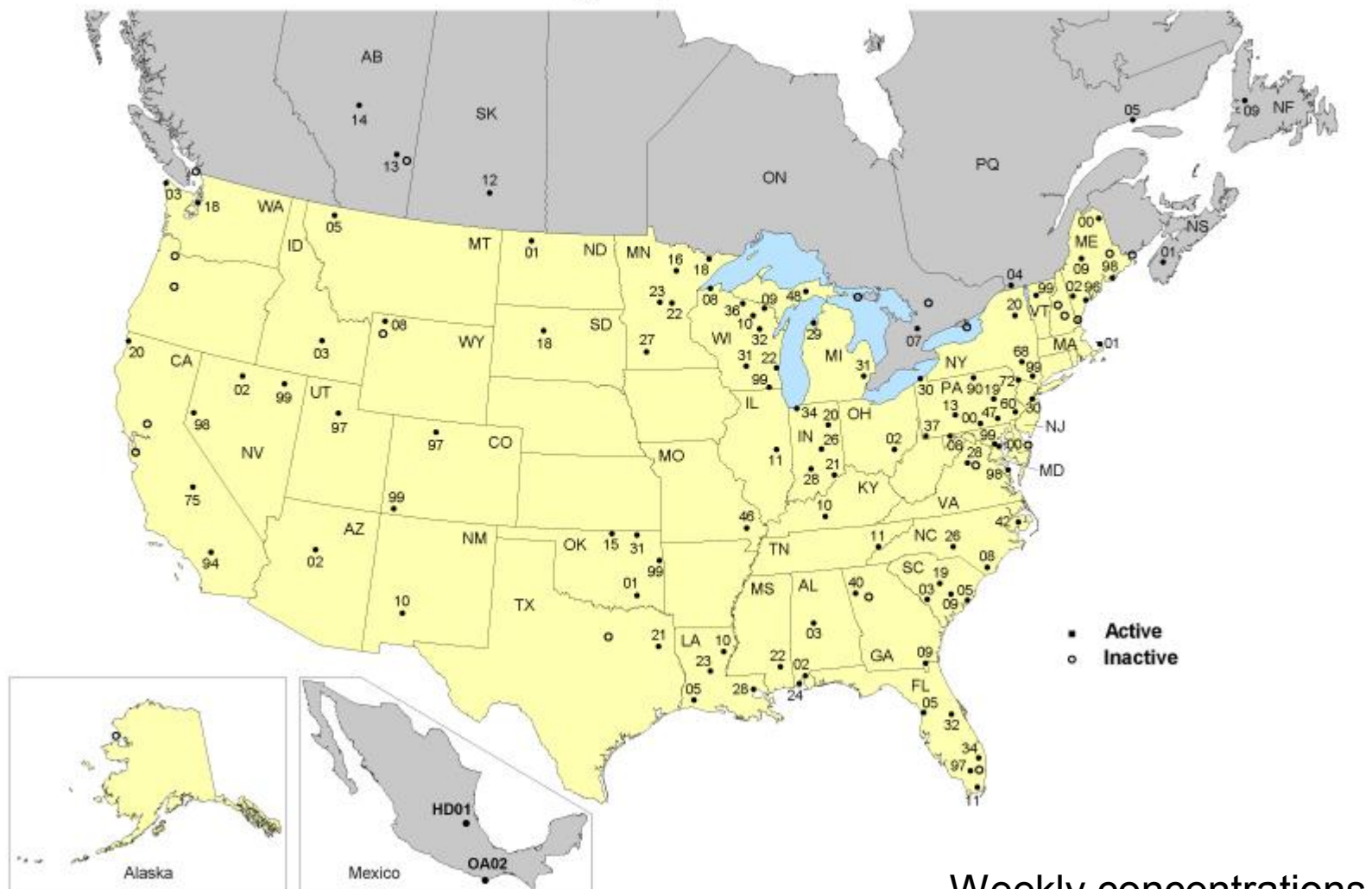
# Mercury Wet Deposition Monitoring at DAQ

Mercury Deposition Network: a NADP Network

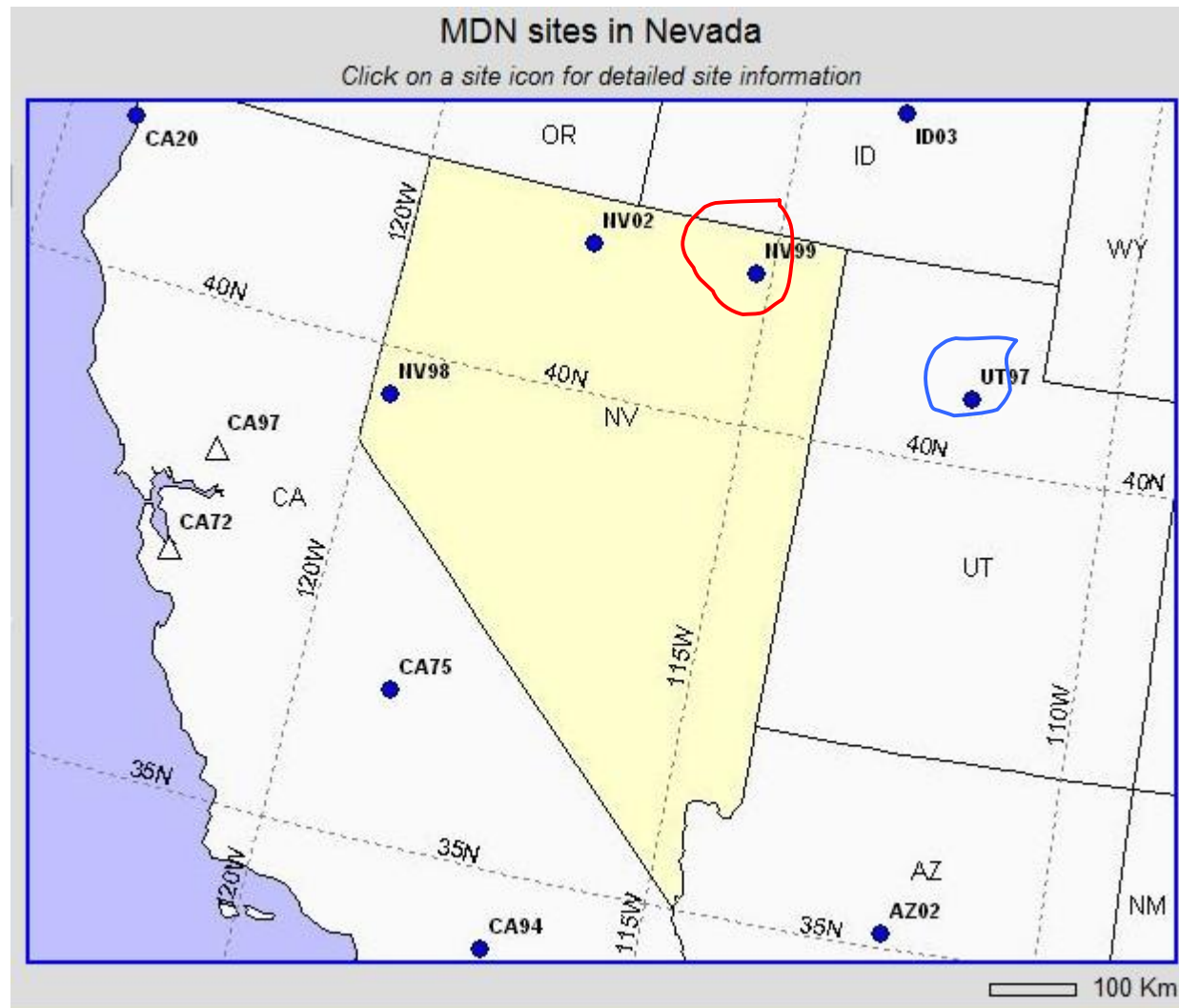
<http://nadp.sws.uiuc.edu/mdn/>

- Total mercury (Can do Methylmercury if desired)
- Weekly Samples (Precip or No Precip)
- Frontier GeoSciences
- Cold vapor atomic fluorescence

# National Atmospheric Deposition Program Mercury Deposition Network



# MDN (Wet Deposition Hg) Sites



# Wet Deposition Hg Data

Site ID	Start Date	End Date	Volume (ml)	HG Conc (ng/l)	HG Dep (ng/m2)
NV99	1/2/07	1/9/07	21.1	17.23	48.16
NV99	2/6/07	2/13/07	57.1	2.95	18.78
NV99	2/13/07	2/20/07	16.4	10.57	61.8
NV99	2/20/07	2/28/07	52.8	5.97	69.76
NV99	3/20/07	3/27/07	47.3	14.99	68.57
NV99	3/27/07	4/3/07	12	6.06	7.7
NV99	4/10/07	4/18/07	11.4	20.45	51.96
UT97	5/22/07	-	54.6	28.5	131.1
UT97	6/12/07	-	241.4	39.6	764.3

# Regional Applied Research Effort (RARE) Program

## (EPA Region 8)

- Mercury Research in Utah – Emphasis on Great Salt Lake
- \$200,000 Grant
- Work Completed in 2 Years
- Results integrated into environmental decision/outcome
- Collaboration between:
  - UDEQ – EPA Region 8 – EPA ORD (Office of Research and Development)
- Proposal due in early December 2007
- Funding expected late spring/early summer 2008





# Regional Applied Research Effort (RARE) Program

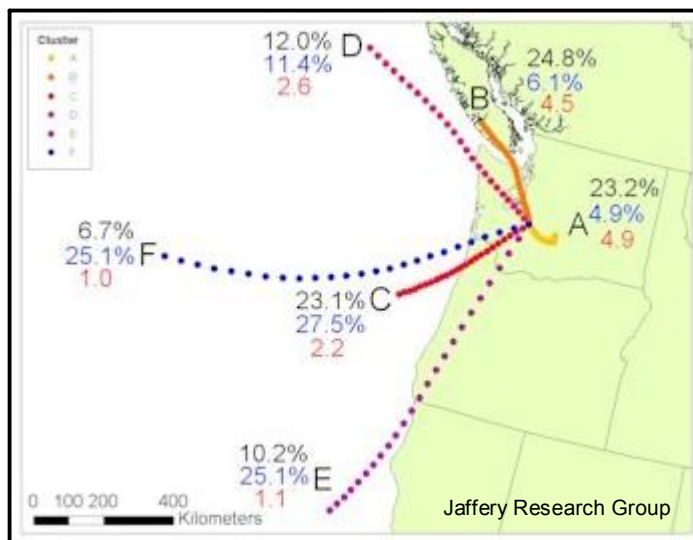
(EPA Region 8)

## Proposal Objectives Being Considered Include:

### 1. Continuous Ambient Air Monitoring

How much Hg is in the air?  
Where does it come from?

- Gaseous elemental Hg
- Reactive gaseous Hg
- Particulate Hg



Data will help to identify source regions & types

# Regional Applied Research Effort (RARE) Program

(EPA Region 8)

## 2. Dry & Wet Deposition Hg Monitoring

How much Hg comes from deposition?

- Hg deposited to surface via settlement and precipitation processes.



## 3. Mountain snow Hg monitoring

How much Hg does the Wasatch snow pack contribute?

- Measure fresh snow and snow pack Hg concentration.
- Instrument purchased by DEQ/USGS/UofU (Geology/Geophys)





# Regional Applied Research Effort (RARE) Program

(EPA Region 8)

#### 4. Stream discharge influx Hg monitoring

## How much Hg do streams contribute?

- Extend existing monitoring to collect a full year of data.
- Instrument purchased by DEQ/USGS/UofU (Geology/Geophys)

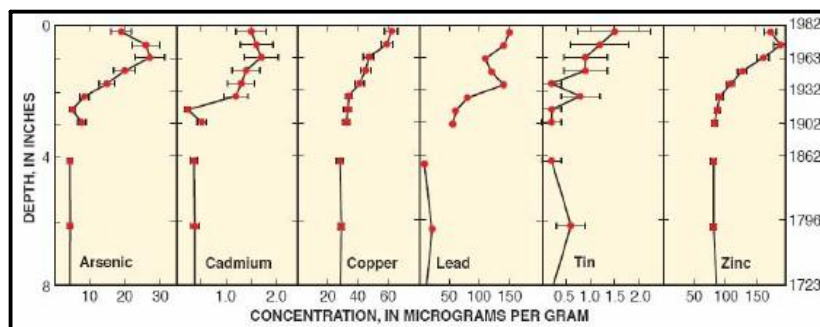


Great Salt Lake Basin Observatory

## 5. Historical Hg Deposition

## How much Hg was deposited in the past vs. today?

- Analyze USGS lake cores for Hg concentration.



Kada et al. 1994

# Summary

**Q1: Do Utah water fowl and fish have elevated levels of Hg?**



- Tissue sampling continues

**Q2: Where is the Hg coming from (location, source, process) ?**



- Infrastructure being assembled
- RARE work to begin ~2008 – Results by ~2010.

**Q3: How does the Hg enter the food chain?**



- Resources & work required to understand Hg processing

**Q4: What can be done?**

- TBD